

19. Salinity tolerant tilapia preference based on small-scale brackish water farmers in Java, Indonesia

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Shrimp farming is the most important aquaculture industry in Indonesia. However, recurrent farming failures caused by disease outbreaks has generated severe financial problems to many small-scale farmers, which accounted for around 65% of brackish water farmers. One promising strategy is to use tilapia as a second species on existing shrimp farms. Monoculture and co-culture with shrimp in combination with rotational cropping have been adopted widely in many areas. This strategy requires a salinity tolerant tilapia that can grow well in shrimp farm environment. This study presents the characteristics of brackish water farmers and their preferences for the most important traits for tilapia breeding program. We conducted a questionnaire-based survey to collect information in Java Island, covers 17 sites in the provinces of Banten, West Java, Central Java and East Java. We involved 224 representative shrimp-tilapia farmers as participants in the local group meetings, which were coordinated and guided by the local fisheries extensions. Our result shows that low income earners dominates small-scale farmers in all provinces at around 46.4-52.9%. They developed different farming systems to sustain their farm production. Co-culture between shrimp and tilapia dominates farm production in East and Central Java by 92.6% and 42.1%, respectively. Co-culture in combination with rotational cropping is also practiced by 36.2% farmers in Central Java and 36.9% in West Java. While monoculture system dominates tilapia farming in Banten (94.1%). Black tilapia dominates tilapia type in West Java (95.3%), East Java (100%), and Banten (100%). Whereas half of farmers in Central Java farm red tilapia (50.7%). The five most mentioned traits for tilapia breeding program are growth rate, survival rate, harvest weight, salinity tolerance and disease resistance. The feed conversion ratio is not crucial because the extensive farming with low input is practised by most of small-scale farmers. In conclusion, small-scale brackish water farmers prefer a tilapia breeding program that focus on growth rate, survival rate and harvest weight improvement to secure their farm production.